



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,846	10/19/2000	Courtney C. Konopka	66161	6249

22242 7590 01/12/2005

FITCH EVEN TABIN AND FLANNERY
120 SOUTH LA SALLE STREET
SUITE 1600
CHICAGO, IL 60603-3406

EXAMINER

EDOUARD, PATRICK NESTOR

ART UNIT	PAPER NUMBER
----------	--------------

2654

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/692,846	Applicant(s) KONOPKA ET AL.	
	Examiner Patrick N. Edouard	Art Unit 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 26-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 26-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to communication filed 06/30/2004. Claims 1-17 and new claims 26-56 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-17 and 26-56 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 17 and 55-56 are rejected under 35 U.S.C. 102(e) as being anticipated by White et al (6,408,272 b1)

As per claim 17, White et al teach a method of speech recognition comprising (figure 2):
searching for an attention word based on a first context including a first set of grammar models (figure 14, his speech recognition engine 40, col. 6, lines 31-45,); and
switching upon finding the attention word to a second context to search for an open-ended user request, wherein second context includes a second set of models, grammar and lexicons (col. 6, lines 45-55, col. 7, lines 2-16, col. 16, lines 1-15, col. 15, lines 14-20).

As per claim 55 and 56, White et al teach a natural language interface control method comprises:

“providing a feature extraction , speech recognition and natural language interface module (figure 2, his parameter extraction component 34, his speech recognition engine 40 , col. 11, lines 44-57, col. 12, lines 13-55, col. 6, lines 31-45);

coupling the feature extraction , speech recognition and natural language to an external network (his WAN connector 58);

transmitting at least one of grammars, speech models; devices extractions, programming information and lexical...to the external network (col. 3, lines 25-32, col. 15, lines 13-22, col. 16, lines 1-9).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2654

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-16 and 26-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Junqua et al (6,324,512 B1) in view of Giuliani et al (Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array) and white et al (6,408,272 B1)

As per claims 1 and 5, Junqua et al teach a natural language interface control system for operating a plurality of devices comprising (figure 1):

" feature extraction module coupled to the first microphone"(his signal processing component 68, col. 15, lines 53-67);

"a speech recognition module coupled to the speech recognition module; (His speech recognizer 20 , col. Col. 2, lines 35-55); and

"A device interface coupled to the natural interface module "(his natural language parser 26, col. 2, lines 52-61), "wherein the natural language interface module is for operating a plurality of devices coupled to the device interface based upon non- prompted, open-ended natural language request from a user"(his abstract, lines 1-5; col. 2, lines 62-67 his unified access controller 30, his digital tuner 40 and his recorder 44, col. 3, lines 9-17).

It is noted that Junqua et al teach the claimed invention but not explicitly teach a 3 dimensional microphone array. However, this feature is well known in the art as evidenced by Giuliani et al who teach a four microphone array. Therefore, one of ordinary skill in the art at the

Art Unit: 2654

time invention was made would have it obvious to substitute the microphone taught by Junqua by the array of microphone taught by Giuliani because it would improve the signal quality in a noisy environment (see Giuliani page 860).

It is further noted that the combination teaches the claimed invention but does not explicitly teach wherein at least one of the different acoustic models and at least one of the different grammars is downloaded over a network. However, this feature is well in the art as evidenced by White et al who teach a distributed voice interface system that includes a remote system which may communicate with a number of local devices where data can be downloaded from the remote system to the local devices at col. 3, lines 25-32 and col. 16, lines 1-15.

Therefore, one having ordinary skill in the art at the time the invention was made would have it obvious to incorporate the combination as taught Junqua with Giuliani into a distributed system as taught by White et al because the data already present in each local device can be updated, replaces or supplemented as desired to modify the voice user interface capability (White et al's col. 3, lines 28-34).

As per claim 2, the combination teaches the plurality of devices coupled to the natural language interface module (Junqua figure 1, his natural language parser 26 and his digital tuner 40 and his recorder 44; White his speech recognition engine 40 and 70)

As per claim 3, Junqua et al wherein the speech recognition module utilizes an N-gram grammar (col. 7, line 65 to col. 8, line 2).

As per claims 4, Junqua et al wherein the natural language interface module utilizes a Probabilistic context free grammar (figure 1, his natural language parser 26, col. 5. lines 5-11).

Art Unit: 2654

As per claims 6-8 (see rejection 1 above) the combination of Junqua with Giuliani and White further teaches wherein the natural language interface abstracts each of the plurality of devices into a respective one of a plurality of grammar...plurality of devices” (Junqua’s col. 2, line 63 to col. 3, lines 16; White’s col. 4, lines 4, lines 54 to col. 5, line 3, col. 6, lines 25-55 (each resident VUI may perform “word spotting” by scanning speech input for the occurrence of or more “keywords”) ;and col. 7, lines 10-15).

As per claims 9 and 10, (see rejection of claim 1) , the combination further teaches a grammar module for storing different grammars for each of the plurality of devices (Junqua, his digital tuner 40 and his recorder 44, col. 3, lines 9-17; White , col. 5, lines 39-54, col. 6, lines 25-55, col. 7, lines 28-35).

As per claims 11-16, the combination teaches wherein the device comprises a wireless device interface (White, col. 2, lines 55-64, col. 5, lines 39-47); an external network coupled to the natural language interface (Junqua, his internet access 64); wherein said 3 dimensional microphone array includes the first microphone (see Giuliani, his four microphone array)

7. Claims 26-54 are the same in scope and content as claims 1-16 above and therefore are rejected under the same rationale.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick N. Edouard whose telephone number is 7033086725. The examiner can normally be reached on T-F 7:30-6:00.


Art Unit: 2654

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 703 3059645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick N. Edouard

January 7, 2005



PATRICK N. EDOUARD
PRIMARY EXAMINER